

IN THE CLAIMS:

The following is a complete list of the claims now pending; this listing replaces all earlier versions and listings of the claims.

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Claim 1 (currently amended): An image processing apparatus comprising:
a saturation calculation unit arranged to calculate saturation information of an image;
a saturation conversion characteristic generating unit arranged to generate a saturation conversion characteristic on the basis of a conversion lines line or curves curve corresponding to each a conversion condition for a low-saturation side and a conversion line or curve corresponding to a conversion condition for a high-saturation side, where the saturation conversion characteristic shows the relationship between input saturation information and output saturation information; and
a saturation conversion unit arranged to convert the saturation of the image on the basis of the saturation conversion characteristic.

Claim 2 (canceled)

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Claim 3 (previously presented): The apparatus according to claim 1, further comprising a conversion condition setting unit arranged to set each conversion condition for the low-saturation side and the high-saturation side by using the input saturation information.

Claim 4 (previously presented): The apparatus according to claim 1, further comprising an instruction unit arranged to make an instruction input by a user in order to set each conversion condition for the low-saturation side and the high-saturation side.

Claims 5 and 6 (canceled)

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7 Claim 7 (previously presented): The apparatus according to claim 1, wherein the saturation conversion characteristic exhibits a monotonic increase or a monotonic decrease.

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Claims 8-11 (canceled)

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7 Claim 12 (previously presented): The apparatus according to claim 1, further comprising:

a detection unit arranged to detect a color distribution of the image;
a generation unit arranged to generate gradation correction information of the image on the basis of the color distribution; and
a gradation correction unit arranged to perform gradation correction of the image on the basis of the gradation correction information.

Claim 13 (previously presented): The apparatus according to claim 12, wherein said saturation conversion unit performs saturation conversion on an image which has undergone gradation correction by said gradation correction unit.

Claim 14 (previously presented): The apparatus according to claim 12,
wherein said generation unit comprises:

a highlight calculation unit arranged to calculate highlight area
information of an image on the basis of the color distribution; and

a white balance calculation unit arranged to calculate white balance
information on the basis of the highlight area information and a predetermined highlight value,
and wherein said gradation correction unit corrects gradation of the image on the basis of the
white balance information and the highlight value.

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Claim 15 (previously presented): The apparatus according to claim 12, wherein
said generation unit comprises:

a shadow calculation unit arranged to calculate shadow area
information of an image; and

a black balance calculation unit arranged to calculate black balance
information on the basis of the shadow area information and a predetermined shadow value,
wherein said gradation correction unit corrects gradation of the image on the basis of the black
balance information and the shadow value.

Claim 16 (currently amended): An image processing method comprising:

a saturation calculation step, of calculating saturation information of an
image;

a saturation conversion characteristic generating step, of generating a
saturation conversion characteristic on the basis of a conversion ~~lines~~ line or ~~curves~~ curve

corresponding to each a conversion condition for a low-saturation side and a conversion line or curve corresponding to a conversion condition for a high-saturation side, where the saturation conversion characteristic shows the relationship between input saturation information and output saturation information; and

a saturation conversion step, of converting the saturation of the image on the basis of the saturation conversion characteristic.

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Claim 17 (canceled)

Claim 18 (previously presented): The method according to claim 16, further comprising a conversion condition setting step, of setting each conversion condition for the low-saturation side and the high-saturation side by using the input saturation information.

Claim 19 (currently amended): A recording medium comprising program codes of an image processing method at least comprising:

code for a saturation calculation step, of calculating saturation information of an image;

code for a saturation conversion characteristic generating step, of generating a saturation conversion characteristic on the basis of a conversion lines line or curves curve corresponding to each a conversion condition for the low-saturation side and a conversion line or curve corresponding to a conversion condition for a the high-saturation side, where said saturation conversion characteristic shows the relationship between input saturation information and output saturation information; and

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code for a saturation conversion step, of converting the saturation of the
image on the basis of the saturation conversion characteristic.
